

Amendments to the Specification:

Replace the title with:

--METHOD FOR DETERMINING LINE FAULTS IN A BUS SYSTEM AND BUS
SYSTEM--

Page 1, above the first paragraph and below the title, insert:

-- Background of the Invention:

Field of the Invention: --.

Replace the paragraph starting on page 1, line 26, with:

--One example of a network system such as this in motor
vehicle electronics is the bus system in accordance with the
CAN standard (Controller Area Network). A CAN bus system is
described, for example, in German Published, Non-Prosecuted
Patent Application DE 195 230 31 A1, corresponding to United
States Patent No. 6,034,995 to Eisele et al., and in German
Published, Non-Prosecuted Patent Application DE 35 06 118,
corresponding to United States Patent Nos. 5,901,156,
5,640,511, 5,621,888, 5,303,348, 5,001,642 to Botzenhardt et
al.--

Replace the paragraph starting on page 3, line 19, with:

--It is therefore absolutely ~~essential~~ critical to identify
and to qualify the nature of the fault state in order to make

it possible to take actions in good time to maintain the data communication between the bus subscribers.--

Replace the paragraph starting on page 3, line 30, with:

--~~German Published, Non-Prosecuted Patent Application Laid-Open Specification~~ DE 195 23 031 A1, corresponding to United States Patent No. 6,034,995 to Eisele et al., describes a data transmission system that uses a differential bus which has a fault identification device such as this. Some of the bus faults mentioned above are identified by a transceiver, by comparing the respective level of the corresponding bus line with an internal, defined threshold level. For example, a fault on the CANH line is identified by comparing the CANH level with an internal comparator threshold. If this level is higher than the predetermined comparator threshold, then this is identified after a specific time as a fault. This comparison is carried out ~~irrespectively~~ regardless of whether the bus is in the dominant state or is in the recessive state.--

Replace the paragraph starting on page 4, line 33, with:

--~~Figure 1a~~ Fig. 1A shows, schematically, a CAN bus system 1 with two or more subscribers 2 - 4, which are connected to a common data bus 6 that is in the form of a two-wire bus and has a first line 7, the CANH line in the example, and a second

line 8, the CANL line in the example. In ~~Figure 1a~~ Fig. 1A, VCANH denotes the potential on the CANH line 7, and VCANL denotes the potential on the CANL line 8.--

Replace the paragraph starting on page 9, line 10, with:

-- In already known bus systems with fault identification devices as in the case of the already cited German Published, Non-Prosecuted Patent Application DE 195 23 031 A1, corresponding to United States Patent No. 6,034,995 to Eisele et al., it has, until now, been possible to solve this problem only to the extent that the respective internal comparator threshold is set such that it allows a maximum ground shift of a few volts (for example $GND_{shift} \leq 2$ volts), although this precludes applications with higher ground shift levels.--

Replace the paragraph starting on page 9, line 19, with:

--International publication WO 97/36184, corresponding to United States Patent Nos. 6,600,723 to Reeb et al., 6,405,330 to Hanf et al., 6,396,282 to Minuth et al., and 6,115,831 to Hanf et al., describes a method for testing ground contacts. In this case, each bus subscriber has two associated resistances. If the data bus is recessive, then an average level is produced on the data bus in the event of a ground shift. Although the method that is described in International publication WO 97/36184 does not allow direct measurement of

the ground shift, it is, however, possible to deduce that a ground shift is present.--

Replace the paragraph starting on page 9, line 28, with:

--International publication WO 97/36399, corresponding to United States Patent Nos. 6,600,723 to Reeb et al., 6,405,330 to Hanf et al., 6,396,282 to Minuth et al., and 6,115,831 to Hanf et al., describes a method for detection of a ground shift or of a poor ground contact. In this fault identification method, the data level to be transmitted during data transmission is compared with a predetermined, defined comparator threshold. Thus, if this comparator threshold is exceeded, there must either be a ground shift fault or an actual fault. In order to distinguish between these faults, the voltage is measured in the immediate vicinity of the bus network, for example, via a resistance arrangement, and is compared with a predetermined voltage. The result of this comparison can be used to deduce whether a ground shift fault or some other fault is present.--

Replace the paragraph starting on page 10, line 4, with:

--Independently of this, both the fault identification in International publication WO 97/36399 and that in International publication WO 97/36184 are dependent on the presence of a ground shift.--

Replace the paragraphs beginning on page 10, line 8, and ending on page 10, line 15, with:

--Summary of the Invention:

It is accordingly an object of the invention to provide a method for checking for line faults in a bus system and a bus system that overcome the hereinafore-mentioned disadvantages of the heretofore-known devices and methods of this general type and that provides a further-developed method for fault identification in networked bus systems as well as a bus system carrying out such a method.--

Replace the paragraphs beginning on page 14, lines 1 to 25, with:

-- Brief Description of the Drawings:

~~Advantageous refinements and developments of the invention can be found in the dependent claims and in the description with reference to the figures.~~

~~The invention will be explained in more detail in the following text using the exemplary embodiments which are indicated in the figures, in which:~~

~~Figure 1 shows~~ FIG. 1A is a block and schematic circuit
diagram of a two-wire bus system with four bus subscribers
~~(Figure 1a);~~

FIG. 1B is a block and schematic circuit diagram and those
components of a bus subscriber ~~which are~~ required for data
transmission ~~(Figure 1b);~~

~~Figure 2 shows the~~ FIG. 2A is a graph illustrating profile of
~~the~~ signal levels on a CANH line and on a CANL line of a bus
system corresponding to ~~Figure 1a~~ in the normal operating
state (without faults) ~~(Figure 2a)~~ and

FIG. 2B is a graph illustrating signal levels on a CANH line
and on a CANL line of a bus system corresponding to when a
fault is present ~~(Figure 2b);~~

~~Figure 3 shows~~ FIG. 3 is a block and schematic circuit
diagram of a bus subscriber; and

~~Figure 4 shows a detailed~~ FIG. 4 is a block and schematic
circuit diagram of the fault identification device shown in
~~Figure~~ FIG. 3.

Description of the Preferred Embodiments: --.

Replace the paragraph starting on page 14, line 31, with:

--In order to describe the method according to the invention, the bus system in which the method according to the invention is used will be described in more detail first of all. This bus system may, for example, have the configuration illustrated in Figure 1 (including FIGS. 1A and 1B), although other refinements of the bus system are also feasible.--

Replace the heading "PATENT CLAIMS" on page 28, line 1, with --
We claim:--.

Replace the "Abstract" with the following new "Abstract of the Disclosure" set forth on a separate sheet: